Friends of the Chicago River

Hold the Road Salt!

When snow starts falling around Chicago, the salt trucks start spreading. Like clockwork, municipalities throughout the Chicago River watershed deploy fleets of plows and salt trucks to combat dangerous road conditions. Road salt is a cost-effective deicer that functions by lowering the freezing point of ice and snow. The resulting slush makes for safer roads, but carries an environmental cost.

The use of road salt has risen steadily since the expansion of the American highway system in the 1950's. During the winter of 2013-14—a winter in which Chicago received 67 inches of snow—the Chicago Department of Streets and Sanitation poured 370,000 tons of salt onto city roads. Much of this salt washes away into the Chicago River as the snow melts, dissolving and accumulating at the bottom of the river. This accumulation in and near water harms riverbank habitat and creates a toxic environment for fish and wildlife. A study from the National Institutes of Health shows that chlorides have variable effects on a wide-range of freshwater fish and often inhibit spawning.

Because of this serious environmental threat, the Illinois Pollution Control Board (IPCB) has set chloride standards for the Chicago River system. At 1500 milligrams per liter during the winter months, and 500 milligrams per liter during the summer, these standards promote a healthier environment that does not interfere with the life cycles of aquatic wildlife. After 2018, the standards transition to 500 milligrams per liter all year round.

Salt smart strategies make for a healthier Chicago River.

The standard considers chlorides rather than sodium chloride—the chemical name for road salt—because salt breaks down readily in water, and chlorides can be closely monitored throughout the watershed. Although salt can be found in human waste and chemical processes, the new standards are aimed specifically at reducing the amount of salt used to deice winter roads.

Meeting the new standard will require coordination between a number of municipalities, public works departments and water experts, which is why the IPCB suggested that the Metropolitan Water Reclamation District of Greater Chicago (MWRD) lead the charge. Responsible for the health of Chicago's water resources, MWRD treats over a billion gallons of water a day across three wastewater treatment plants within the Chicago River watershed.

"The chlorides initiative is about environmental stewardship," said Tony Quintanilla, the MWRD's Assistant Director of Management and Operations and the coordinator of the Chlorides Task Force. "Municipalities can make significant positive impacts on local waterways by implementing best management practices for winter deicing in a cost-effective manner and by engaging with their local watershed planning groups."

Similar chloride reduction initiatives have made positive environmental impacts throughout the Midwest, most notably in Minnesota and Wisconsin. Since 2010, the Twin Cities Metropolitan Area—consisting of seven municipalities around Minneapolis and St. Paul—has engaged in a chlorides initiative that relies on public participation and education as well as community and municipality partnerships to achieve chloride reduction goals. The city of Madison, Wisconsin has also experimented with a plan to reduce road salt through more efficient salt spreading techniques like wetting the salt before application.

Last year, the City of Chicago spent $30 million on road salt—no small sum. Municipalities stand to save money and protect the water environment by adopting the best road salt management practices of other Midwestern cities and coordinating snow removal efforts throughout the watershed.

Homeowners and renters play an important role in protecting the Chicago River, too. Next snowfall, be cognizant of how much salt you use on your driveway and sidewalks. It all ends up in the river when the snow melts.

Chloride pollution affects people, plants, and animals. Here's what you can do at home to protect the Chicago River system:

- Use environmentally friendly products.
- Shovel snow regularly so ice doesn't form on sidewalks or steps.
- Spread salt evenly and sparingly: one pound of salt—roughly one coffee mug—will cover 20 feet of driveway and 70 feet of sidewalk.
- Make a brine by mixing salt with water and covering sidewalks before the snow. Simply mix salt with water until the salt no longer dissolves, and then spread over the desired area.
- Salt has no effect on snow or ice below 15 degrees Fahrenheit so salt accordingly.
- When driving, maintain an appropriate speed for the conditions. Speeding can actively reduce effectiveness of salt by spinning it off the road.

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